DISCUSSION POINTS

OSHA'S PROPOSED RULE ON WORKPLACE IAQ

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- We have received copies of OSHA's proposed rule on workplace indoor air quality but we have not received the voluminous "regulatory text" that OSHA will apparently publish.

- We at Philip Morris can assure you that we will carefully study OSHA's proposed rule and the "regulatory text" and, as we have done in the past, we will offer any expertise or scientific data that we may have to OSHA for inclusion in OSHA's decision-making process. We offered extensive analyses and data to OSHA in response to its Request For Information (RFI) on indoor air quality (IAQ) issues in 1991, and we intend to participate fully in OSHA's current process.

- At this juncture, however, we can say that OSHA's preliminary position as stated in the proposed rule, that indoor smoking should be restricted to enclosed, designated smoking areas with separate exhaust is not supported by the scientific data already in OSHA's public docket or by the scientific literature in general. We will oppose any rule that mandates such restrictions.

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- Because OSHA's rulemaking may take (by OSHA's own estimate) several years, employers, building owners and others should not treat OSHA's proposed rule, issued at the commencement of a long regulatory process, as a final workplace IAQ standard.

- We also oppose what amounts to a ban of smoking in restaurants and bars by virtue of the draconian measures contained in OSHA's proposed rule. OSHA purports (i) to treat restaurants and bars as office workplaces, (ii) to require separate, enclosed smoking areas for all restaurants and bars covered by the proposed rule and (iii) to prohibit employees (such as waiters and waitresses) from entering the smoking areas as a part of their employment. This callous, regulatory over-reaching by OSHA is not supported by OSHA's public docket (indeed OSHA did not specifically address restaurants and bars in its RFI) and is not supported by the scientific data.

- OSHA's proposed ban on smoking in restaurants and bars is but one aspect of the severe, arbitrary approach OSHA has set forth regarding indoor smoking:

  (i) Indoor smoking would be restricted in hotels (i.e., smoking could not occur in the presence of hotel employees);

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(ii) Presumably, an employer with two employees working in a one room business would have to designate an enclosed smoking area -- this according to Assistant Secretary Dear at the March 25, 1994 press conference;

(iii) According to Assistant Secretary Dear, OSHA inspections would routinely become involved in the inspection and regulation of workplace smoking in all workplaces under OSHA's jurisdiction (70 million workers in 4.5 million non-industrial indoor work environments);

(iv) If a workplace had twenty employees and all twenty smoked, OSHA's proposed rule would still mandate smoking in enclosed, designated areas with separate exhaust; and

(v) Smoking in private, indoor offices would not be allowed.

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A COMPREHENSIVE IAQ APPROACH THAT DOES NOT SINGLE OUT INDOOR SMOKING IS NEEDED

- While we welcome any comprehensive, objective and scientific review of overall workplace indoor air quality by OSHA, if the scientific data and information already contained in OSHA's public docket are thoroughly reviewed, OSHA's preliminary positions on environmental tobacco smoke (ETS) and indoor smoking, as set forth in OSHA's proposed rule, simply cannot be supported.

- To the extent that OSHA ultimately includes environmental tobacco smoke and indoor smoking as a part of an overall approach to indoor air quality issues in the workplace, we support a comprehensive approach to overall workplace IAQ by OSHA -- but only if such an approach is objectively based on sound science.

- In our prior response to OSHA's RFI, we supported a comprehensive approach to addressing indoor air quality in the workplace. The central focus of a comprehensive, "building systems approach" is upon ventilation, which includes

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provisions for adequate outdoor air and its distribution to occupied spaces.[1]

- A comprehensive approach to IAQ has been consistently advocated to OSHA by such diverse groups as governmental agencies, labor unions, professional organizations and product manufacturers, in comments submitted to OSHA's public docket.

- A comprehensive approach to IAQ by OSHA is also supported by over 2,000 investigations of so-called "sick-buildings" by government and private investigators in North America. The data from those investigations indicate (i) that over one-half of all indoor air quality problems identified in sick-buildings can be traced to inadequate outdoor air ventilation, and (ii) that an additional and substantial percentage of problems can be traced to poor air circulation and filtration and inadequate maintenance of the air handling systems. Those

1. It is well established that adequate ventilation decreases exposure to various substances in indoor air and prevents and/or alleviates complaints about indoor air quality. Adequate outdoor air intake and its distribution to occupied workplaces serves to dilute and/or remove a wide range of potential substances in the air, including carbon dioxide, biologicals, radon, carbon monoxide, volatile organic compounds, and, yes, environmental tobacco smoke. This solution remains constant as work activities of building tenants and the "mix" of substances in indoor air change over time. This is a feasible, comprehensive, and cost-effective solution to addressing workplace indoor air quality.

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data also confirm that ETS is a factor in only about 2-4% of all buildings investigated.

- Any comprehensive approach to indoor air quality also recognizes that proper ventilation should be provided in any enclosed space, regardless of whether or not smoking is permitted. Ventilation air is required for dilution and removal of by-products of human metabolism and work-related activities.

- Although a comprehensive approach to workplace indoor air quality is mandated, OSHA appears to regard its primary focus as one of implementing workplace smoking bans or severe restrictions on indoor smoking. This is despite the fact that such measures are not supported by scientific data, and that such a singular focus clearly detracts from an overall IAQ approach.

- Tobacco smoke, because it is easily seen and smelled, is often blamed for IAQ problems. Smoking, however, is only one small part of the much larger issue of workplace indoor air quality. While we acknowledge that smoking bans or restrictions to separately exhausted smoking areas have been perceived by many as an easy, inexpensive solution to complaints about poor

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indoor air quality, such approaches simply do not address workplace IAQ issues.

- Data from numerous ambient air measurement studies on ETS constituents in public places, offices and restaurants, do not support the contention of those who advocate smoking bans or the segregation of smokers to separately ventilated rooms.

- If OSHA looks at the data which documents serious indoor air quality problems in schools (where smoking does not occur), OSHA will see a clear illustration of the hazards of poor indoor air quality and the need for a comprehensive regulatory approach to IAQ.

- Philip Morris has long advocated the accommodation of the interests of smokers and nonsmokers alike. Accommodation attempts to strike a balance between those who wish to smoke and those who do not want to be exposed to ETS. Adults should have the freedom to smoke, subject to applicable laws and ordinances and tempered by the basic responsibility to act courteously toward people who are bothered by tobacco smoke. Accommodation relies on a balance -- one that does not discriminate unfairly against either smoker or nonsmoker and one which does not give any special rights to either group.

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In pursuing accommodation, nonsmokers' annoyance in the presence of tobacco smoke is to be minimized.

- This accommodation approach recognizes that studies consistently report that typical nonsmoker exposures to ETS are minimal, often at or below limits of detection for sensitive air monitoring devices, and often indistinguishable from "background levels" of constituents found in buildings where smoking is altogether prohibited.

- OSHA will find that complaints about workplace exposures to ETS can be addressed in a number of ways. Since workplaces, public places, and restaurants are infinitely varied, smoking policies should be designed to fit the requirements of each individual workplace. The question of the feasibility of implementing one or more options on smoking is best determined on an individual or case-by-case basis. In some locations, smoking restrictions may be unnecessary; in others, minimal changes, for example, the simple separation of smokers and nonsmokers, may sensibly accommodate the interests of both.

- Severe restrictions by OSHA on smoking in the workplace are simply unjustified by the data on ETS exposures and will do nothing to improve fresh air ventilation or reduce exposure to other substances in the indoor air. The scientific

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literature, already contained in OSHA's public docket, indicates that the simple separation of smokers and nonsmokers can adequately minimize nonsmoker exposure to ETS. We are confident that if OSHA looks at all workplace data, it will reach these conclusions.

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OSHA'S PROPOSED RULE DOES NOT MENTION OR ACKNOWLEDGE THE ASHRAE CONSENSUS STANDARD FOR INDOOR WORKPLACE VENTILATION

- The American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) is a professional organization consisting of mechanical engineers, HVAC (heating, ventilation and air-conditioning) contractors, HVAC systems and controls manufacturers, architects, design engineers and indoor air quality specialists.

- One of the principal functions of ASHRAE is the development of voluntary consensus standards related to heating, ventilation and air-conditioning. Because ASHRAE consensus standards are adopted by building code organizations throughout the United States, OSHA should incorporate ASHRAE standards in the consideration of its proposed workplace rule.

- In 1989, ASHRAE updated Standard 62 "Ventilation for Acceptable Indoor Air Quality" (ASHRAE Standard 62-1989). The standard was approved by the American National Standards Institute in 1990 and is currently being considered for adoption by the major codemaking organizations in the U.S.

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- The standard prescribes the rate at which fresh or outside air must be delivered to occupied spaces and various means to condition that air. The standard recommends a ventilation rate of 20 cubic feet of fresh air per minute (cfm) per person for most commercial facilities, with 15 cfm as the minimum. The standard's drafters concluded that a minimum ventilation rate of 15 cfm/occupant will produce air quality that is acceptable to 70 percent of visitors and to 90 percent of adapted occupants, assuming a moderate amount of smoking (30% smoking, 1.7 cigarettes/hour/smoker). For areas with more intense smoking activity (e.g., "smoking lounges), the standard recommends a rate of 60 cfm/person.

- The minimum ventilation rates for ASHRAE 62-1989 were chosen "to control CO_2 and other contaminants with an adequate margin of safety and to account for health variations among people, varied activity levels, and a moderate amount of smoking."

- Research indicates that a ventilation rate of 15 cfm/person, the minimum rate recommended by ASHRAE 62-1989, (and three times the rate previously recommended for nonsmoking areas in ASHRAE 62-1981) is sufficient to disperse normally occurring ambient substances, as well as tobacco smoke.

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- A number of professional organizations, private investigators and scientists have recommended adoption of ASHRAE 62-1989. Both the National Center for Environmental Health Strategies (NCEHS) and the Business Council on Indoor Air (BCIA) have recommended that ASHRAE 62-1989 be established as a "minimum national mandatory standard for all public or commercial buildings." The Sheet Metal and Air Conditioning Contractors National Association (SMACNA) had endorsed the use of the Standard as well. In a 1990 paper, Goodfellow and Wyatt write:

> The ASHRAE 62-1989 is overall a good standard and provides the best available guidance on ventilation control of indoor air quality. Full implementation of this standard would eliminate the major causes of indoor air quality problems. It is our recommendation steps be taken to ensure that this consensus document be incorporated into its applicable building codes.

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CLAIMS OF WORKPLACE IAQ HEALTH EFFECTS

Claims: "Poor indoor air quality has been shown to result in headaches, respiratory infections, wheezing, nausea, dizziness, respiratory allergies, Legionnaire's disease, influenza, colds, measles, pulmonary tract infections and other ailments."

"Exposure to environmental tobacco smoke has been linked to heart disease, lung cancer, decreases in pulmonary function, low birthweight babies, miscarriages, a number of birth defects and other illnesses and diseases."

"Of more than 70 million employees working indoors, OSHA estimates that 21 million are exposed to poor indoor air and millions of others are exposed to environmental tobacco smoke."

Response:

- The alleged health effects of exposure to ETS in the workplace have not been convincingly established by the scientific data.

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- The existing data examining reported ETS exposures in the workplace and lung cancer incidence in nonsmokers are consistent with the hypothesis that there is no association.

- None of the epidemiological studies which have examined workplace smoking in relation to heart disease have reported a statistically significant relationship of such exposure with heart disease.

- The majority of studies on spousal smoking and respiratory disease other than cancer in nonsmoking adults have been conducted in the home. Only a few studies have examined the possible relationship between reported exposures to ETS in the workplace and the respiratory health of nonsmoking adults. The studies that have been conducted on this issue have reported contradictory results.

- Although some individuals are annoyed by the sight and smell of tobacco smoke and a few even report experiencing irritation, the existence of human allergens in tobacco smoke has <u>not</u> been established scientifically.

- A number of research groups have been unable to conclude that humans actually experience a true tobacco smoke allergy. In 1980, for example, a group of researchers noted that "direct

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evidence that tobacco smoke is immunogenic [capable of evoking a specific response] in man is yet to be documented." A more recent report by this same group affirms this conclusion.

- Asthmatics are sometimes believed to be particularly vulnerable to various environmental influences, including ETS, but the scientific data in this area are contradictory and inconclusive. Most of these studies have been conducted neither in the home nor in the workplace but are clinical studies that have potential applicability to either setting. The ten major studies on the possible association of exposure to ETS and acute respiratory symptoms in adult asthmatic nonsmokers are inconsistent in their reported results, and the authors often fail to adequately control for confounding factors. Furthermore, the authors often cannot rule out the possibility of psychological factors playing a role in the reported reactions of asthmatics to ETS.

- Although OSHA's press conference referenced "evidence" of health risk, OSHA has yet to establish a significant risk of material impairment to worker health, which it must establish to support any workplace rule.

- If OSHA were to impose a workplace smoking ban, even if such a ban were limited to designated areas of the workplace, the

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agency would have to demonstrate with substantial evidence that any level of ETS, no matter how minute the exposure, poses a significant risk of material health impairment (e.g., lung cancer or other respiratory disorders). To satisfy the "best available evidence" requirement, OSHA must show that its finding is supported by a body of reputable scientific thought.

- OSHA cannot merely rely on the EPA risk assessment on ETS (the "EPA Report") to support a finding of significant risk from any level of ETS in the workplace, no matter how minute the exposure. They cannot directly link the EPA Report, which focuses primarily on reported exposure to ETS from spousal smoking in the home, to the workplace. Although the courts afford the agency much deference in choosing the "body of reputable scientific thought" on which it relies, that scientific evidence must demonstrate a significant risk from ETS exposure in the workplace.

- The data in OSHA's own public docket do not support the health effect conclusions regarding nonsmoker exposure to ETS in the workplace, which are inherent in the proposed rule.

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- The complex nature of indoor air quality exposures in the workplace make it difficult if not impossible for OSHA to make the claims set forth above.

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WORKPLACE SMOKING

Claims: "Employers who do not prohibit smoking must designate non-working smoking areas that are enclosed and exhausted to the outside."

"Prohibiting smoking indoors or limiting smoking to rooms that have been specially designed to prevent smoke from escaping to other areas of the building are the only two options that will effectively protect nonsmokers."

"Air from the smoking room should be directly exhausted to the outside by a separate exhaust. Air from the smoking area should not be recirculated to other parts of the building."

Response:

- While OSHA's proposed rule suggests that simple separation of smokers and nonsmokers is not effective, numerous studies in the scientific literature report that simple separation of smokers and nonsmokers in the workplace, even under conditions of recirculation, can effectively minimize nonsmoker exposures to ETS.[1-12]

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- Moreover, the data suggest that bans and separately ventilated smoking areas do not result in significant reductions of ETS exposures beyond adequate ventilation and/or the simple separation of smokers and nonsmokers under a common ventilation system.

- IAQ measurements taken under normal, everyday conditions indicate that the contribution of tobacco smoke to the ambient air in typical public places and workplaces is minimal.[13-15]

- For example, some studies report typical nicotine measurements ranging from an exposure equivalent of 1/100 to 1/1000 of filter cigarette per hour.[16-22] That means a nonsmoker would have to spend from 100 to 1000 hours in an office, restaurant or other public place in order to be exposed to the nicotine equivalent of a single cigarette.

- Because it is visible and easily identified by its aroma, tobacco smoke is often blamed for poor indoor air quality. Government and private studies of "sick buildings" in the United States and Canada report, however, that tobacco smoke is related to only two percent to five percent of the buildings investigated for complaints about air quality.[23-29] This suggests that even a total smoking ban is not likely to

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affect comfort problems in 95 to 98 percent of "sick buildings."[30]

- The majority of indoor air quality problems in "sick buildings" have been traced to inadequate fresh air and poor air filtration. Because the visibility of tobacco smoke may be an indicator of inadequate ventilation, the prohibition of smoking often serves to mask the real reason for poor indoor air quality -- lack of proper ventilation. In addition, concentrating on tobacco smoke ignores the fact that adequate ventilation should always be provided in any enclosed space, regardless of whether or not smoking is permitted.

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SMOKING IN RESTAURANTS AND BARS

Claims: Some communities have banned smoking in places such as restaurants entirely. OSHA apparently would treat restaurants and bars as workplaces requiring designated smoking areas. However, OSHA apparently would also require that no employee (i.e. waiters or waitresses) should enter the smoking area in the performance of normal work activities. In effect, OSHA is trying to ban smoking in all restaurants and bars covered by the proposed rule.

Response:

- Numerous studies in the scientific literature report that simple separation of smokers and nonsmokers, even under conditions of recirculation, can effectively minimize nonsmoker exposures to ETS.[1-12]

- The scientific literature includes a number of studies measuring indoor air quality in restaurants, bars and other public places. These studies indicate that nonsmoker exposure to ETS under normal, everyday conditions is minimal.[13-15]

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- The data in OSHA's already existing public docket would not support the complete ban of smoking in restaurants and bars that OSHA is advocating in its proposed rule.

- Studies reported in the scientific literature contain data regarding the low levels of ETS constituents purportedly "transferred" from smoking to nonsmoking areas, even under conditions involving a shared ventilation (recirculation) system. Data reported in those studies indicate that ETS constituents, and particularly nicotine, RSP, and CO in nonsmoking areas in buildings where smoking is permitted, are often only slightly above the limits of detection, and often indistinguishable from the "background" levels of constituents that can be found in the air of buildings in which smoking is prohibited.

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